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10/803,907	03/19/2004	Yong Duck Kim	YHK-0133	6778
34610	7590	12/28/2007	EXAMINER	
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			12/28/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

**Application No.**

10/803,907

**Applicant(s)**

KIM ET AL.

**Examiner**

Emmanuel Hailemariam

**Art Unit**

2629

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 18 October 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,3-8,10-15 and 17-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-8,10-15 and 17-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |                                                                                                            |                                                                                         |
|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)                        | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____                                                |

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3-8, 10-15, and 17-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim (US 7,095,888) in view of the admitted prior Art.

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

**As to claim 1**, Kim discloses, a method for calculating an Average Picture Value (APL)(APL, column 1, line 18), comprising: applying a first weight to a red data; (figure 3 (element 140)); applying a second weight to a green data; (figure 3 (element 150)); applying a third weight to a blue data; (figure 3 (element 160)); and calculating the APL for the red, green and blue data with the applied weights (column 2, lines, 30-32 fig.3 (element 240)).

Kim discloses that the weights image data corresponding to size of pixel (column 1, lines, 63-67). But Kim does not expressly disclose the sizes of red, green and blue sup-pixels.

However, The admitted prior Art discloses the sizes of red, green and blue sup-pixels (See figure 2 and 3).

It would have been obvious to one skilled in the art at the time of the invention was made to substitute the single pixel of Kim with sub-pixel The Admitted Prior Art. The motivation to substitute the single pixel of Kim with sub-pixel is to reduce the size of the display in the single pixel in order to obtain various types of color display screen within the single pixel.

**As to claim 3**, Kim discloses, wherein each of the weights has different value in each red, green, blue data (weights multiplied with the red, green and blue color data are different, value change, column 2, lines, 30-34).

**As to claim 4**, Kim discloses, wherein the step of applying the weight includes:

Multiplying the first weight to the red data (multiplying unit 14 for multiplying summed red color data, see column 1, lines 39-41); multiplying the second weight to the green data (multiplying unit 15 for multiplying summed green color data, see column

1, lines 41-43); and multiplying the third weight to the blue data (multiplying unit 16 for multiplying summed blue color data, see column 1, lines 44-46).

**As to claim 5**, Kim discloses, wherein the step of calculating the APL (calculating the APL value, see column, 2, line 30) includes: calculating a first APL for the red data, a second APL for the green data and a third APL for the blue data (the weights multiplied with the red, green and blue color data are different, see column 2, lines, 30-33); adding the first, the second, the third APLs for the red, the green and the blue data to produce the summation therefor (a summing unit 17 for summing up the red, green and blue data, see column, 1, lines 45-46); and calculating a mean value of the summation ( averaging the summed red, green and blue color data values, see column 1, lines 47-49).

**As to claim 6**, Kim discloses, wherein the weights are changeable (the weights of the three colors are changed, see column 4, lines 58-60).

**As to claim 7**, Kim discloses, wherein the weights are changeable by users when a user inputs the weights of the red, green and blue color pixels

(0.5.about.1.5) as binary numbers, see column, 5 lines, and 10-13).

**As to claim 8**, Kim discloses, an apparatus for calculating an Average Picture Level (APL) (APL, column 1, line 18) includes: means for applying a first, a second and a third weights to a red (red weight, figure 3 (element 140)), a green (green weight, figure 3 (element 150)) and a blue data (blue weight, figure 3 (element 160)), respectively; and an APL calculator for calculating the APL for the red, the green and

the blue data with the applied weights (Calculating APL value, red, green and blue data see column 2, lines, and 30-32).

Kim discloses that the weights image data corresponding to size of pixel (column 1, lines, 63-67). But Kim does not expressly disclose the sizes of red, green and blue sup-pixels.

However, The admitted prior Art discloses the sizes of red, green and blue sup-pixels (See figure 2 and 3).

It would have been obvious to one skilled in the art at the time of the invention was made to substitute the single pixel of Kim with sub-pixel The Admitted Prior Art. The motivation to substitute the single pixel of Kim with sub-pixel is to reduce the size of the display in the single pixel in order to obtain various types of color display screen within the single pixel.

**As to claim 10**, Kim discloses, wherein the weights have different values in each red, green, blue data (weights multiplied with the red, green and blue color data are different, value change, column 2, lines, 30-34).

**As to claim 11**, Kim discloses, wherein the means for applying the weights includes: a first multiplier for multiplying the red data by the first weight (multiplying unit 14 for multiplying summed red color data, see column 1, lines 39-41); a second multiplier for multiplying the green data by the second weight (multiplying unit 15 for multiplying summed green color data, see column 1, lines 41-43); and a third

multiplier for multiplying the blue data by the third weight (multiplying unit 16 for multiplying summed blue color data, see column 1, lines 44-46).

**As to claim 12**, Kim discloses, wherein the APL calculator calculates a first APL for the red data, a second APL for the green data and a third APL for the blue data

(The weights multiplied with the red, green and blue color data are different, see column 2, lines, 30-33); adding the first, second, third APLs for the red,

The green and the blue data to produce the summation therefore (a summing unit 17 for summing up the red, green and blue data, see column, 1, lines 45-46);

and calculating the mean value of the summation (averaging the summed red, green and blue color data values, see column 1, lines 47-49).

**As to claim 13**, Kim discloses, wherein the weights are changeable (the weights of the three colors are changed, see column 4, lines 58-60).

**As to claim 14**, Kim discloses, wherein the weights are changeable by users (when a user inputs the weights of the red, green and blue color pixels

(0.5.about.1.5) as binary numbers, see column, 5 lines, and 10-13).

**As to claim 15**, Kim discloses a plasma display (plasma display, column 1, lines 7-8) includes: means for applying a first, a second and a third weights to a red, a green and a blue data (weights multiplied with the red, green and blue color data are different, value change, column 2, lines, 30-34). Respectively; an APL calculator for calculating an APL for the red data, the green data and the blue data with the

applied weights (calculating APL value, red, green and blue data, see column 2, lines, 30-32); and a driving circuit for displaying a picture using the APL (see fig.2 and fig.3).

Kim discloses that the weights image data corresponding to size of pixel (column 1, lines, 63-67). But Kim does not expressly disclose the sizes of red, green and blue sup-pixels.

However, The admitted prior Art discloses the sizes of red, green and blue sup-pixels (See figure 2 and 3).

It would have been obvious to one skilled in the art at the time of the invention was made to substitute the single pixel of Kim with sub-pixel The Admitted Prior Art. The motivation to substitute the single pixel of Kim with sub-pixel is to reduce the size of the display in the single pixel in order to obtain various types of color display screen within the single pixel.

**As to claim 17**, Kim discloses a plasma display of claim 15, wherein the weights have different values in the red, green, blue data, respectively (weights multiplied with the red, green and blue color data are different, value change, column 2, lines, 30-34).

**As to claim 18**, Kim discloses a plasma display of claim 15, wherein the means for applying weights includes: a first multiplier for multiplying the red data by the first weight; a second multiplier for multiplying the green data by the second weight; and a third multiplier for multiplying the blue data by the third weight

(multiplying unit 14 for multiplying summed red color data, see column 1, lines 39-41).

**As to claim 19**, Kim discloses a plasma display of claim 18, wherein the APL (calculating the APL value, see column, 2, line, 30); includes: Calculator calculates a first APL for the red data, a second APL for the green data and a third APL for the blue data (the weights multiplied with the red, green and blue color data are different, see column 2, lines, 30-33); adds first, second, third APLs for the red, the green and the blue data to produce the summation therefore (a summing unit 17 for summing up the red, green and blue data, column,1, lines 45-46); and calculates a mean value of the summation (example, averaging the summed red, green and blue color data values, see column 1, lines 47-49).

**As to claim 20**, Kim discloses a plasma display of claim 19, wherein the driving circuit differently controls the number of sustain pulses according to the mean value (see fig.2 and fig.3) col. 3 lines 42-61).

**As to claim 21**, Kim discloses a method of claim 15, wherein the weights are changeable by users (when a user inputs the weights of the red, green and blue color pixels (0.5.about.1.5) as binary numbers, see column, 5 lines, 10-13).

***Response to Arguments***

1. Applicant's arguments filed 10/18/07 have been fully considered but they are not persuasive.
2. As to the applicant's argument that Kim is disqualified under 103(c) as being commonly owned, the examiner contests ????? ***(Fill in argument here if different inventor is a valid argument)***
3. As to the applicant's argument that Figures 2 and 3 are not admitted prior art, the examiner contests that Figures 2 and 3 are labeled 'Related Art', which is considered art that is related to the applicant's invention, and is thus not considered to be created by the applicant. Further, the art was known by the applicant before the applicant's filing date, as the related art was known to the applicant when the application was constructed; thus, Figures 2 and 3 are considered related art that was known prior to the filing date of the applicant's application.

***Conclusion***

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

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shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Emmanuel Hailemariam whose telephone number is 571-270-1545. The examiner can normally be reached on M-F 8:00am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amare Mengistu can be reached on 571-270-1550. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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AMARE MENGISTU  
SUPERVISORY PATENT EXAMINER